Coastal Protection and Restoration: The 2012 Master Plan and the RESTORE Act

Bayou Gauche Citizens Action Committee

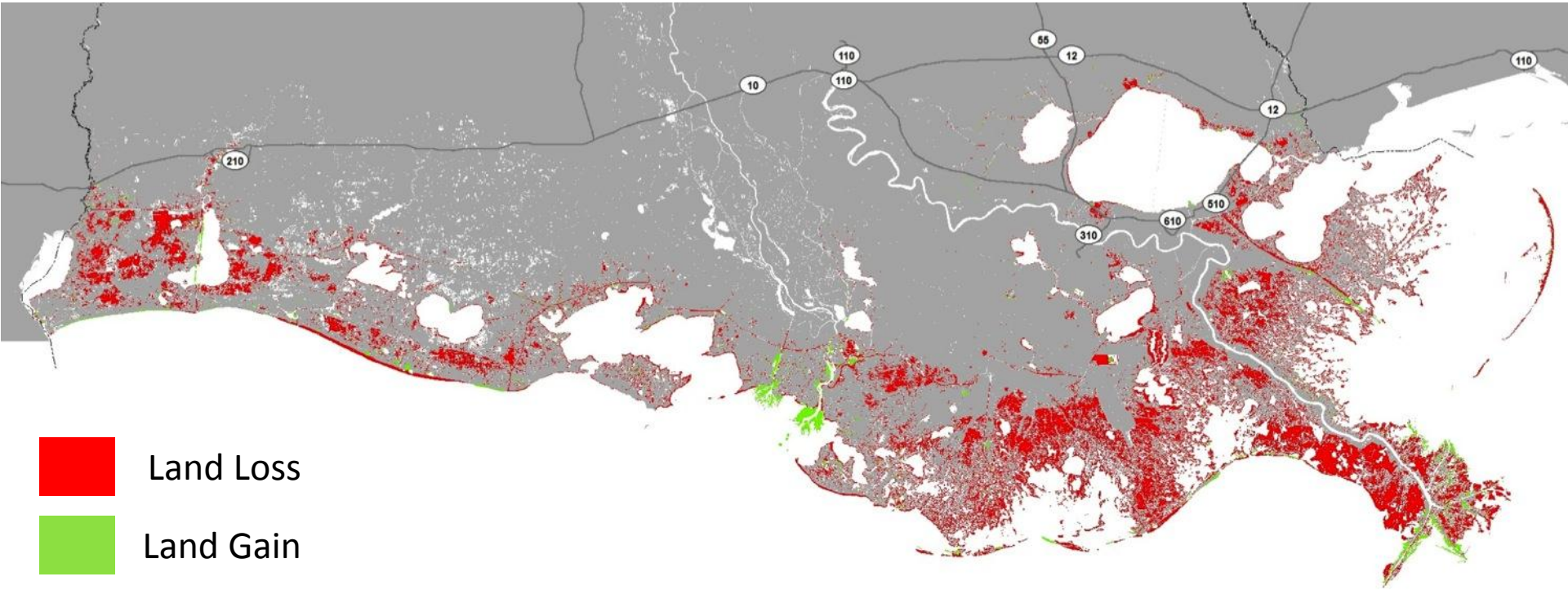
Garret Graves

September 17, 2013

committed to **our coast**

Land Area Change in Coastal Louisiana

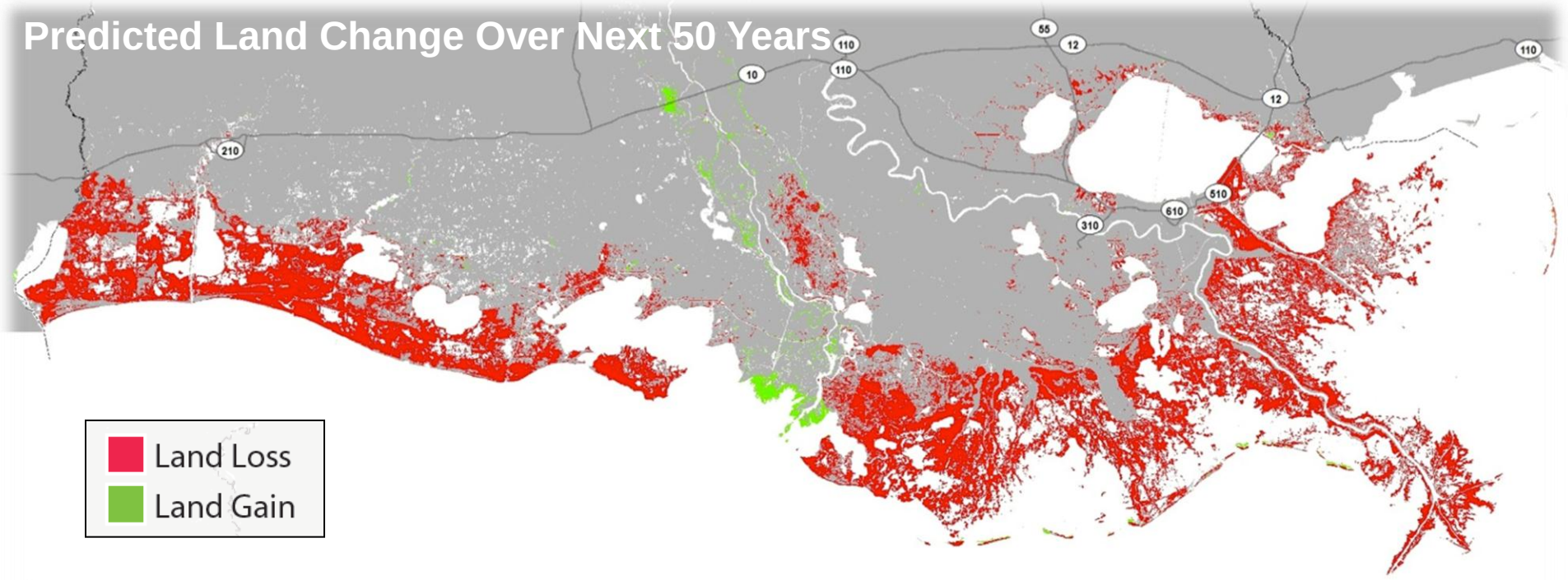
(1932 – 2010)



Historic Land-Water Change from 1932-2010

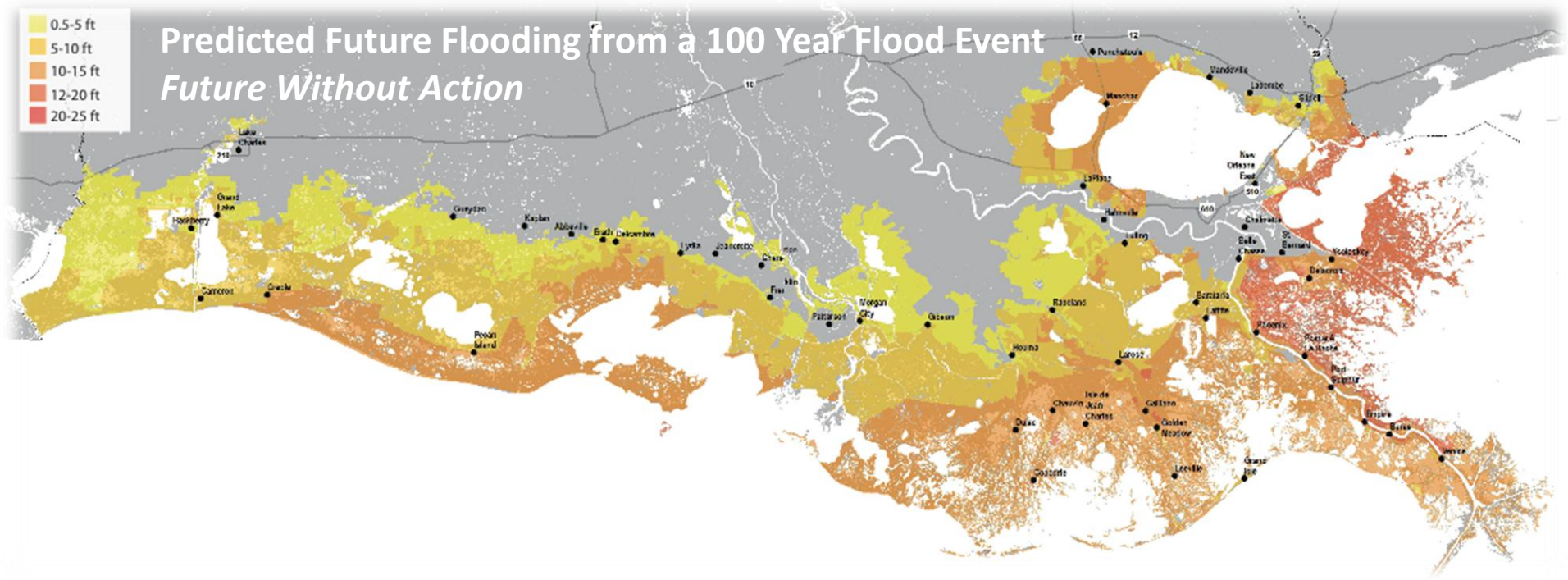
Couvillion et al (USGS), 2011

Louisiana is Experiencing a Coastal Crisis



Potential to lose up to **1,756 square miles** of land over the next 50 years

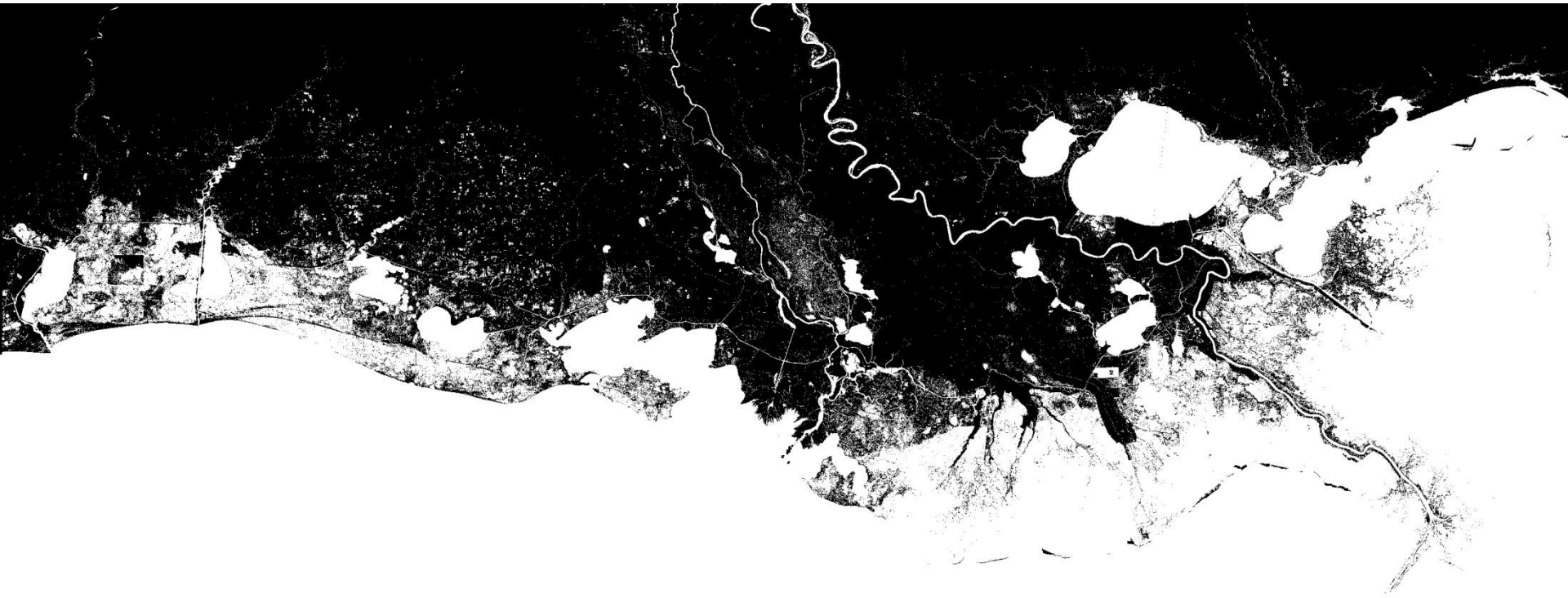
Our Communities and Livelihoods at Risk



Potential for expected annual flood damages to reach **$7.7 to $23.4** billion by 2061

Our Coastal Crisis Will Continue

Current 2020 2030 2040 2050 2060



With No Action Over the Next 50 Years

Blum, M.D. & H.H. Roberts (2009)

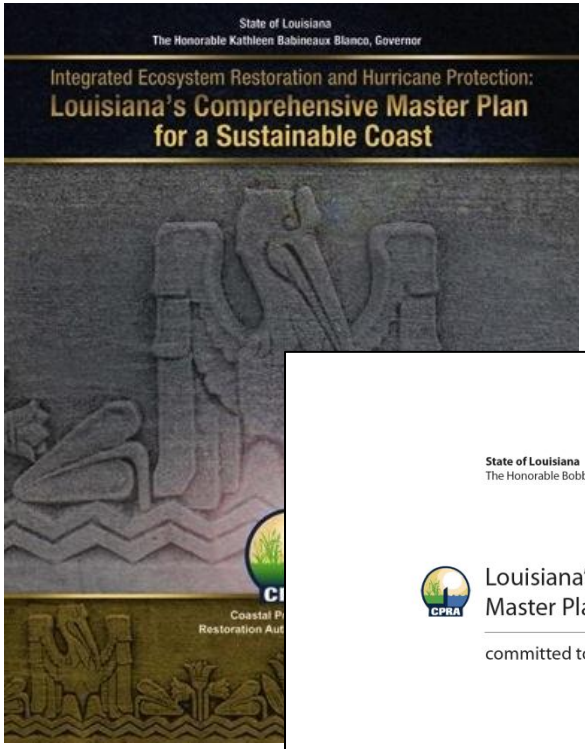
Prediction for 2100

Master Plan Objectives

Flood Protection	Reduce economic losses from storm-based flooding
Natural Processes	Promote a sustainable coastal ecosystem by harnessing the processes of the natural system
Coastal Habitats	Provide habitats suitable to support an array of commercial and recreational activities coast wide
Cultural Heritage	Sustain Louisiana's unique heritage and culture
Working Coast	Provide a viable working coast to support industry

Adaptive Management is Built In

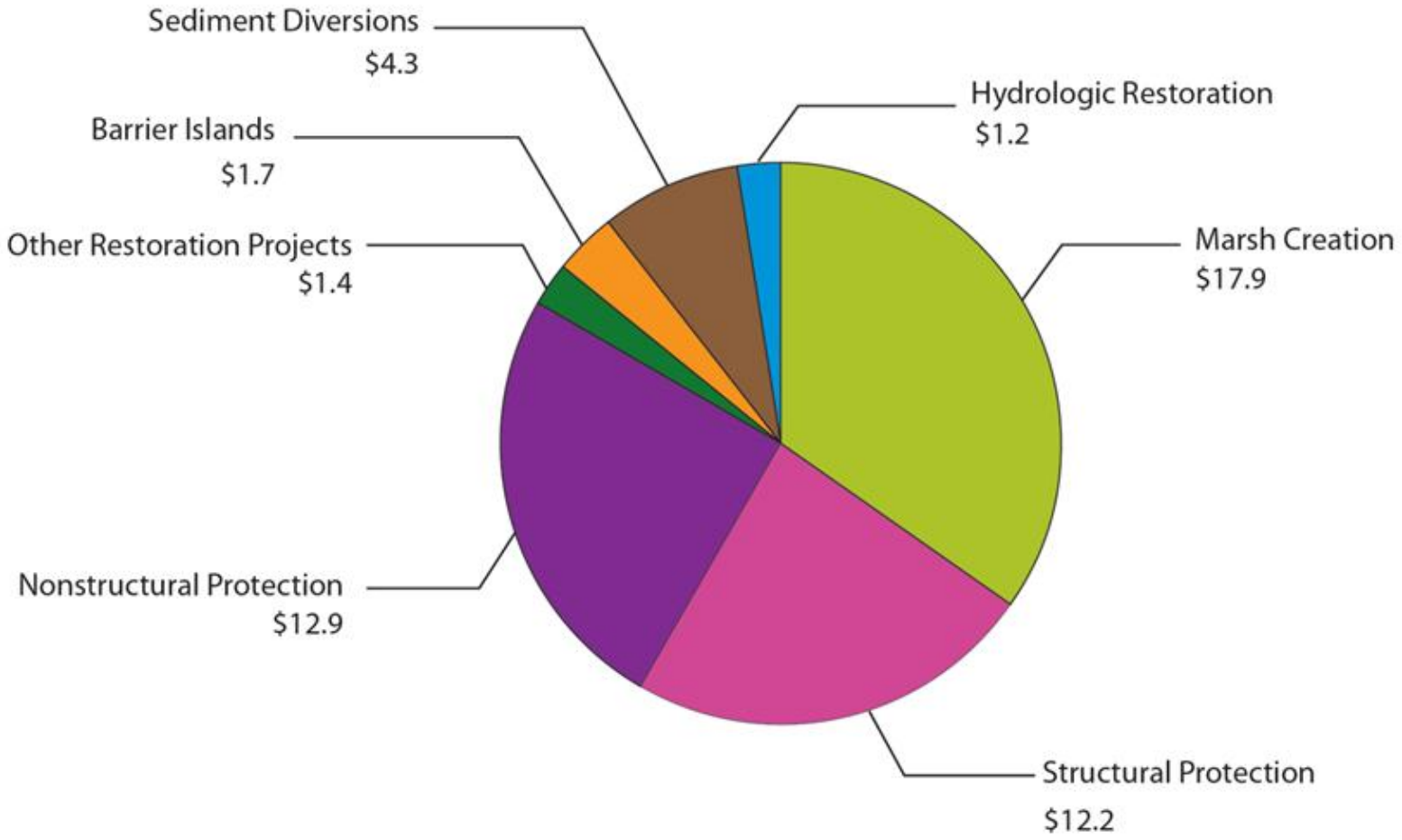
Louisiana Legislature requires five year updates to the master plan



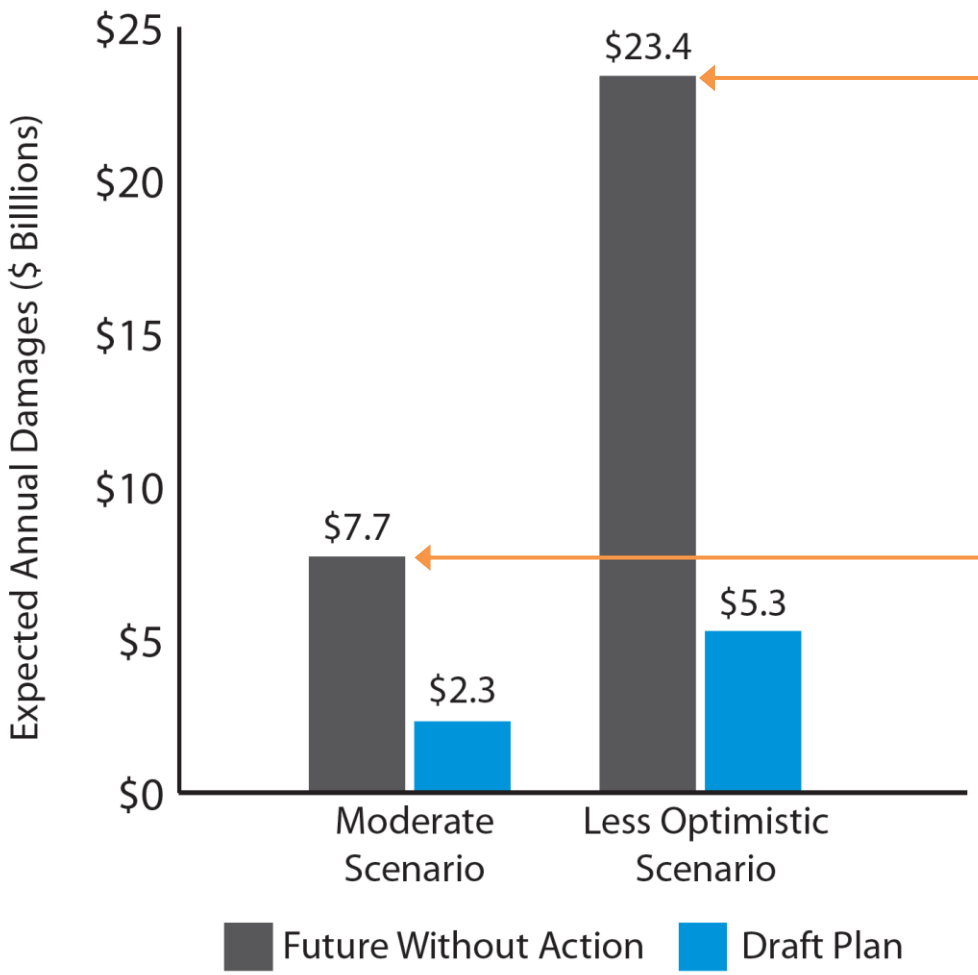
The goal of the Adaptive Management Framework is to ensure that the master plan objectives are achieved by guiding adjustments to planning, policy and implementation

What the Master Plan Delivers

Includes a wide variety of project types distributed throughout the coast



What the Master Plan Delivers: Reduction in Annual Damages

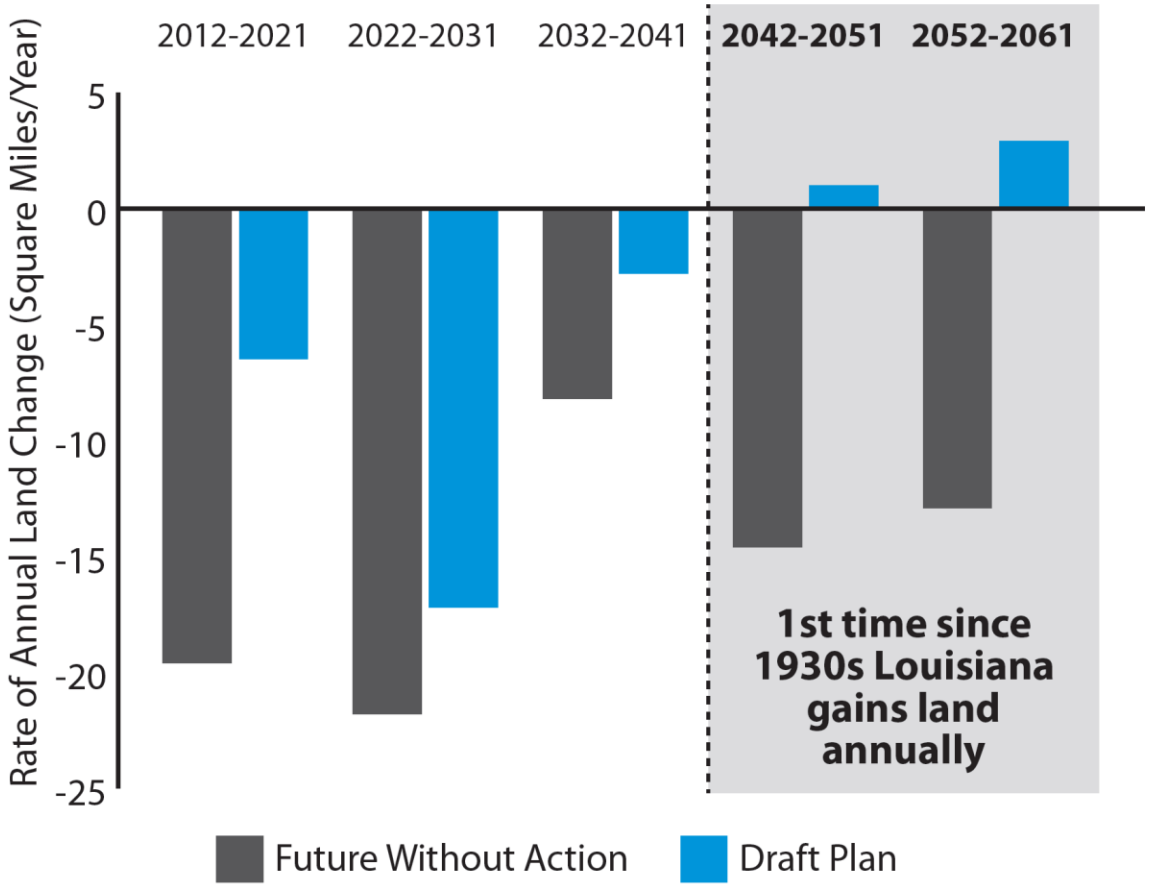


$18.1 Billion Decrease over Future Without Action

$5.4 Billion Decrease over Future Without Action

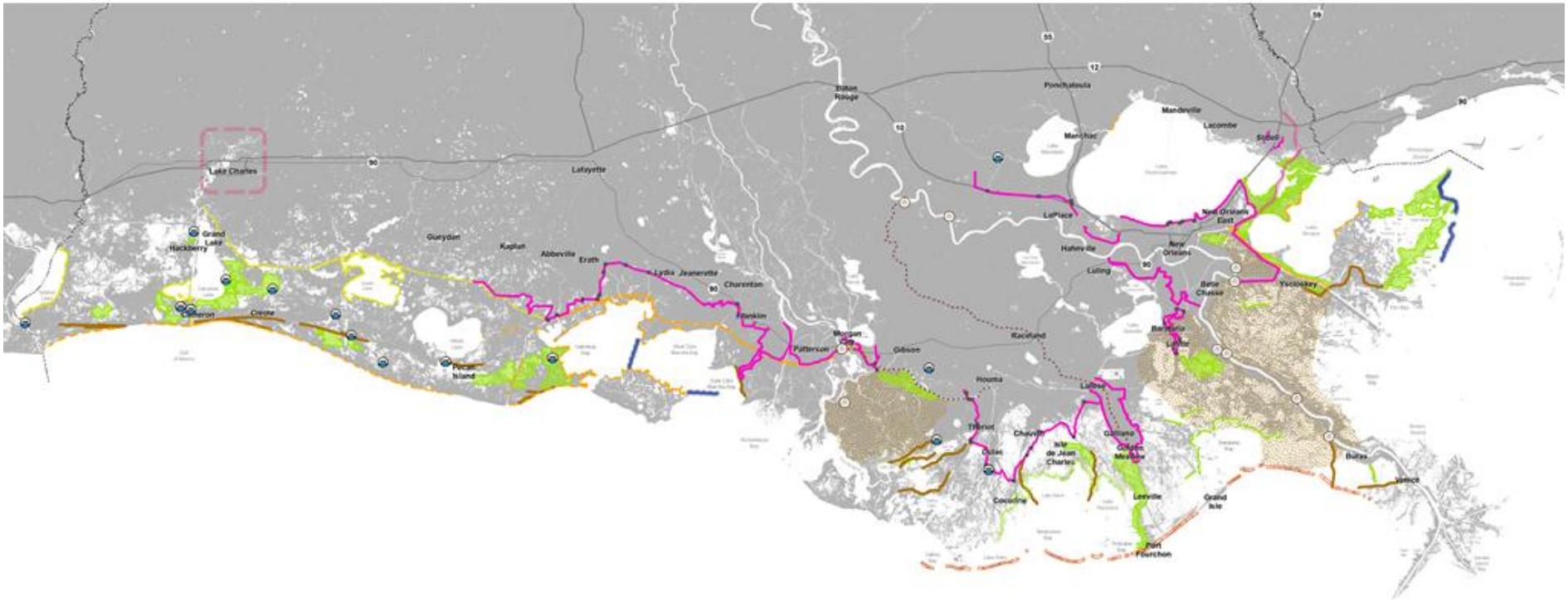
What the Master Plan Delivers: Land Building

Potential Annual Rates of Land Change over the Next 50 Years



550-850 square miles of land built or maintained over 50 years

2012 Coastal Master Plan



Projects Included:

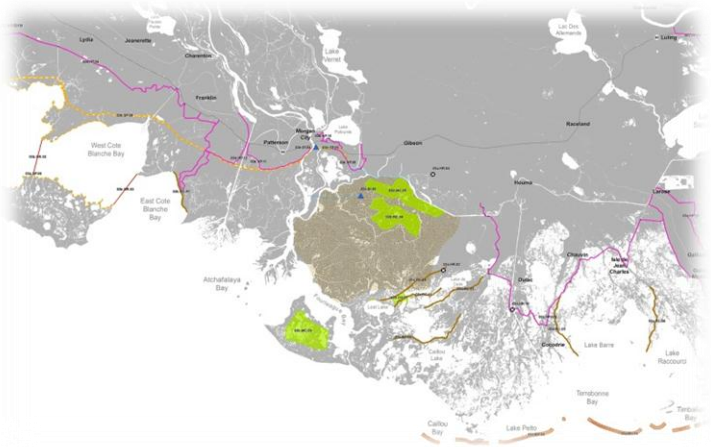
Projects for Further Planning:

- Lake Pontchartrain Barrier
- Lake Charles Protection
- Terrebonne Bay Rim Marsh Creation
- Channel Realignment (Not Shown)

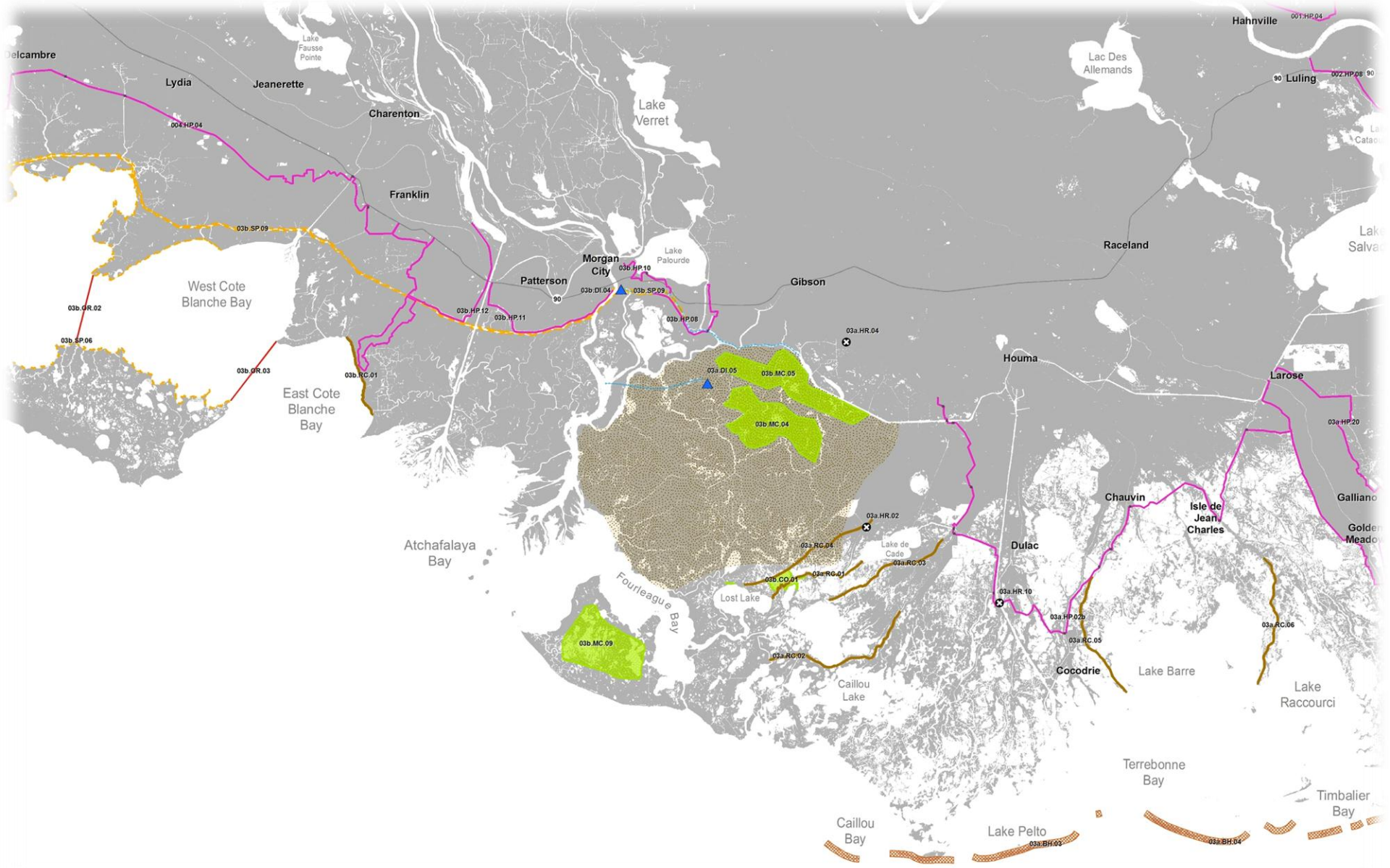
145 Projects Totaling Approximately
$50 Billion over 50 Years

A Closer Look: Central Coast

- **Restoration:** Maintain the land building capacity of the Atchafalaya region, while increasing the use of sediment and water east to Terrebonne Parish to sustain the coastal ecosystem. Rebuild barrier islands and ridges.
- **Protection:** Levee protection is proposed for Morgan City, Houma, Franklin, and New Iberia. Nonstructural protection measures are proposed for less populated areas. Restoration of the barrier islands, marshes, and ridges contribute additional protection.

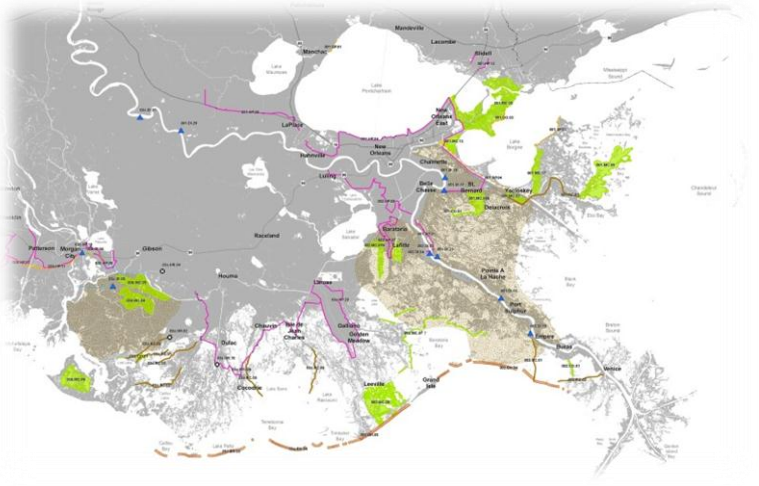


A Closer Look: Central Coast

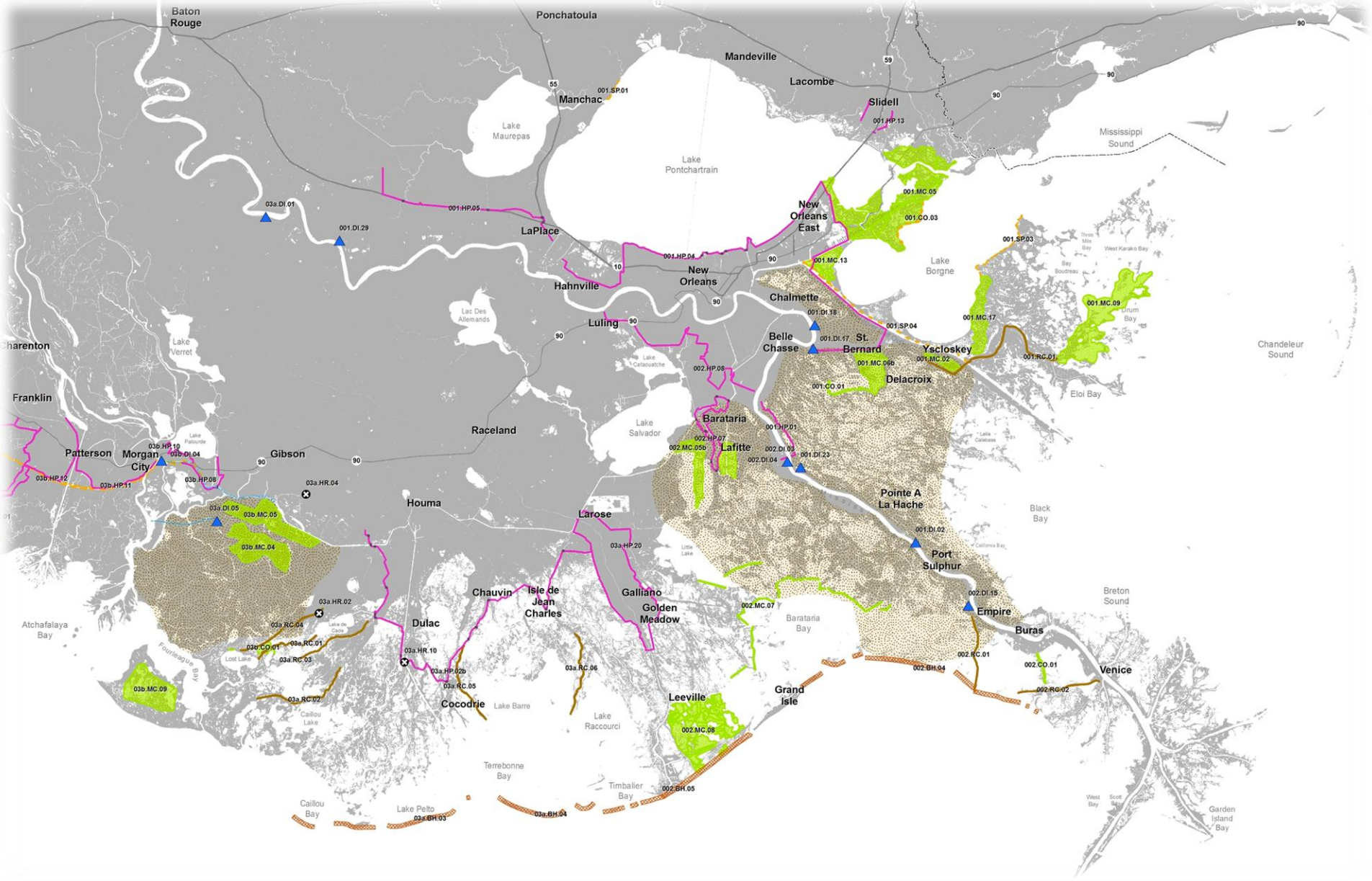


A Closer Look: Southeast Coast

- **Restoration:** Use sediment and water from the Mississippi River to maintain and rebuild land. Sustain a diversity of coastal habitats including cypress swamps, marshes, ridges, and barrier islands.
- **Protection:** Sustain key levee protection systems, such as Greater New Orleans area and Larose to Golden Meadow. New levees are proposed for larger, at risk communities, such as LaPlace and Slidell. Nonstructural protection measures are proposed for all parishes in the area.



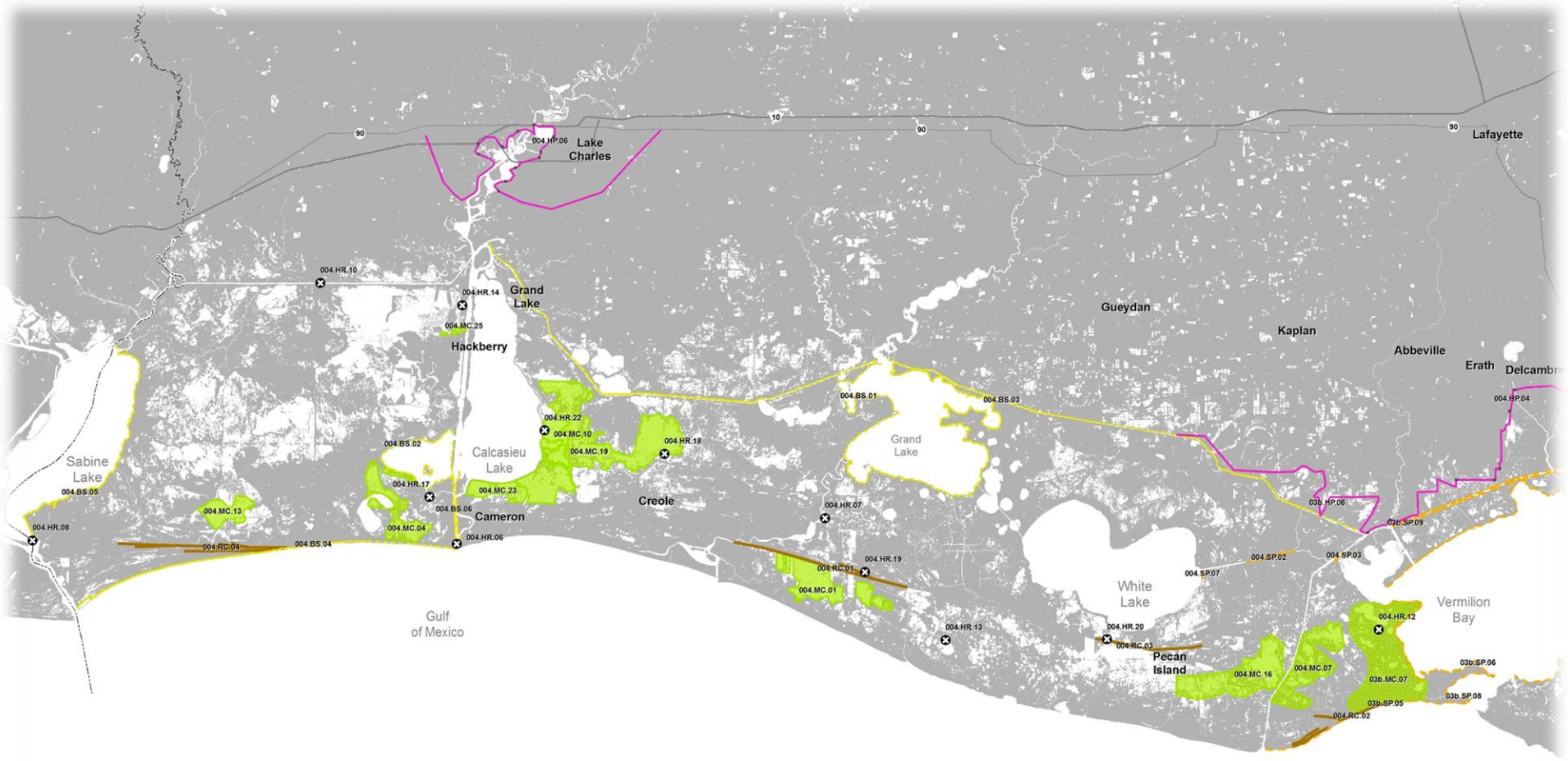
A Closer Look: Southeast Coast



A Closer Look: Southwest Coast

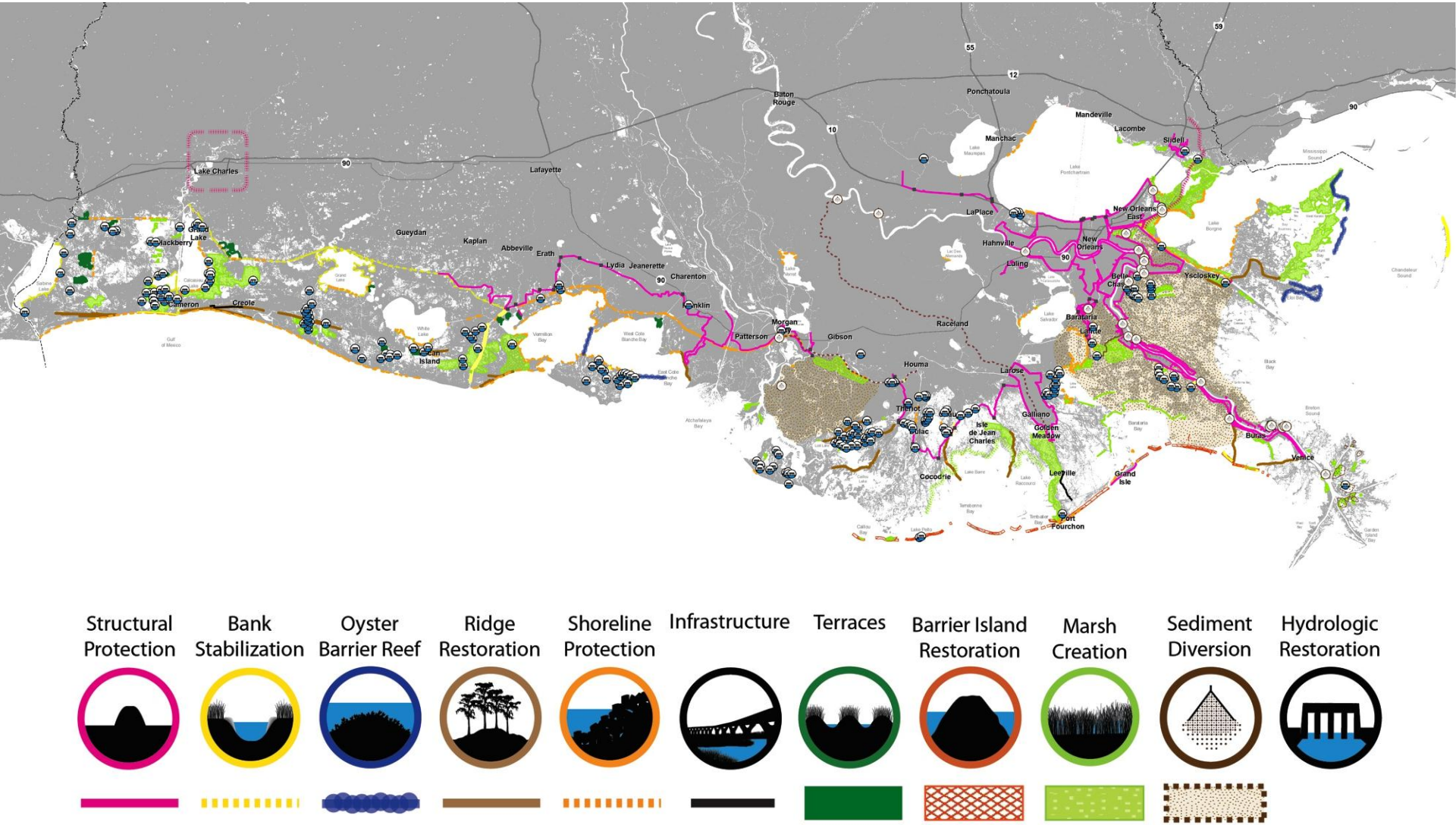
- **Restoration:** Restore wetlands and chenier ridges while limiting saltwater intrusion. Maintain and increase, where possible, the input of fresh water to maintain a balance among saline and fresh wetlands.
- **Protection:** Levees are proposed for the Lake Charles and Abbeville areas. Nonstructural measures are proposed for less populated areas. Restoration of chenier ridges and healthy wetlands contribute additional storm protection.

A Closer Look: Southwest Coast



Responding to the Coastal Crisis

Louisiana's Coastal Program: Past, Present, and Future



Past, Present and Future Work

Upcoming St. Charles Projects

Name/Program	Project Phase	Project Type/Description	Total Budget
West Shore-Lake Pontchartrain Feasibility Study (GNO-HSDRRS)	Planning	Study to assess storm reduction measures	Pending
FEMA DFIRM Report	Program	Outreach program to support Digital Flood Insurance Rate Map and Flood Insurance Study for GNO area	$0.33 Million
West Bank and Vicinity (GNO-HSDRRS)	Construction	100-year level protection on west side of Mississippi River	$4.6 Billion
Upper Barataria Basin Risk Reduction	Early Stages	Surge and damage modeling of levee alignments for potential DTG alternatives	Pending

Upcoming St. Charles Projects

Mitigation (GNO-HSDRRS)	Engineering & Design	USACE mitigation project	$79 million
St. Charles West Bank Hurricane Protection Levee (State)	Engineering & Design	Levees, drainage structures, and pump stations for communities in St. Charles along the West Bank of the Mississippi River	$13 million
LaBranche East and Central Marsh Creation (CWPPRA)	Engineering & Design	Restoration and nourishment of marsh using dredging from Lake Pontchartrain	$84.6 million
Lake Salvador Shoreline Protection (CIAP)	Constructed	7,000 feet of shoreline protection on NW shore	$5.2 million

We are doing it!

159 miles of built or improved levees

We are doing it!

We are doing it!

$17 Billion

in State & Federal funding for protection & restoration

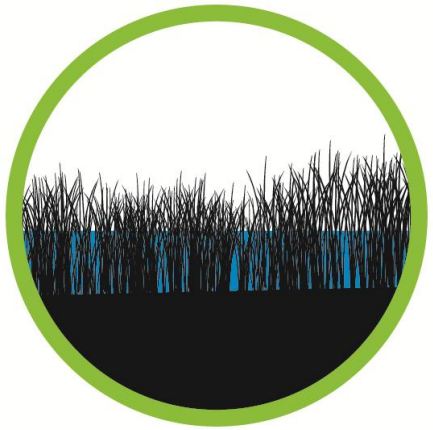
Barrier Islands

Creation and restoration of dune, beach, and back barrier marsh to restore or augment offshore barrier islands and headlands

Pelican Island

Scofield Island

Marsh Creation



- Creation of new wetlands in open areas
- Sediment dredging and placement
- Most involve pipeline conveyance of sediment

Bayou Dupont

Bayou Dupont: Outside of Influence Area

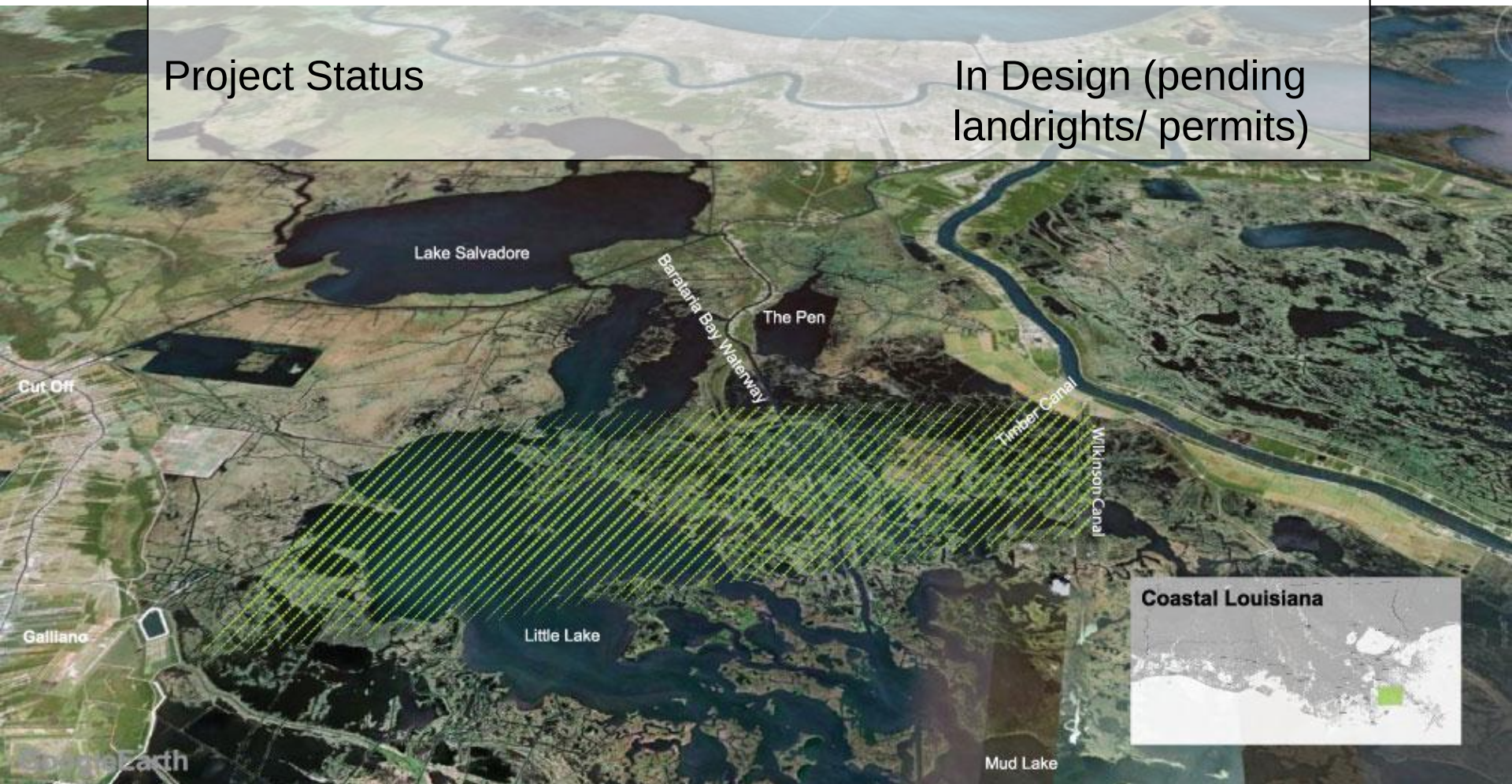
Bayou Dupont: November 2012


Pier 90 M
1988


2012

Long Distance Sediment Pipeline

Total Project Budget (CIAP)	$66.1 million
Acres Benefited	256
Project Status	In Design (pending landrights/ permits)



Mississippi River Long Distance Sediment Pipeline (BA-43)

Shoreline Protection

- Near shore rock breakwaters to reduce wave energies on shorelines in open bays, lakes, sounds, and bayous
- Also includes work on navigation channels

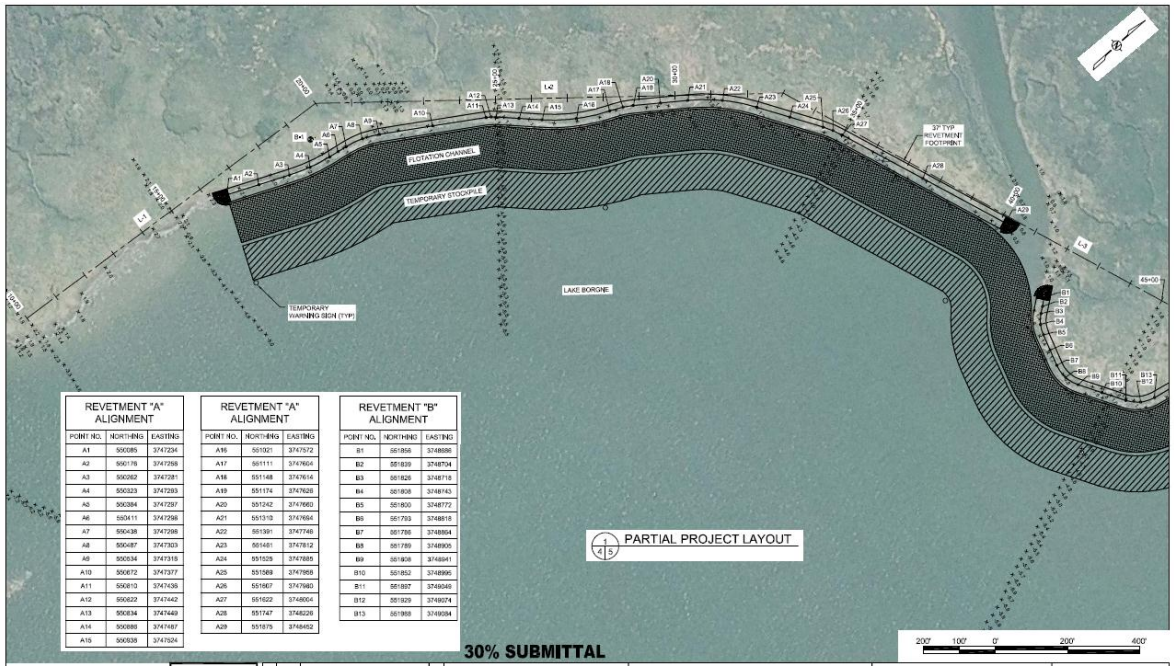
Orleans Landbridge

Cost: $34.7 million

Land Benefited: 110 acres of marsh and 8.7 miles of shoreline

Orleans Landbridge

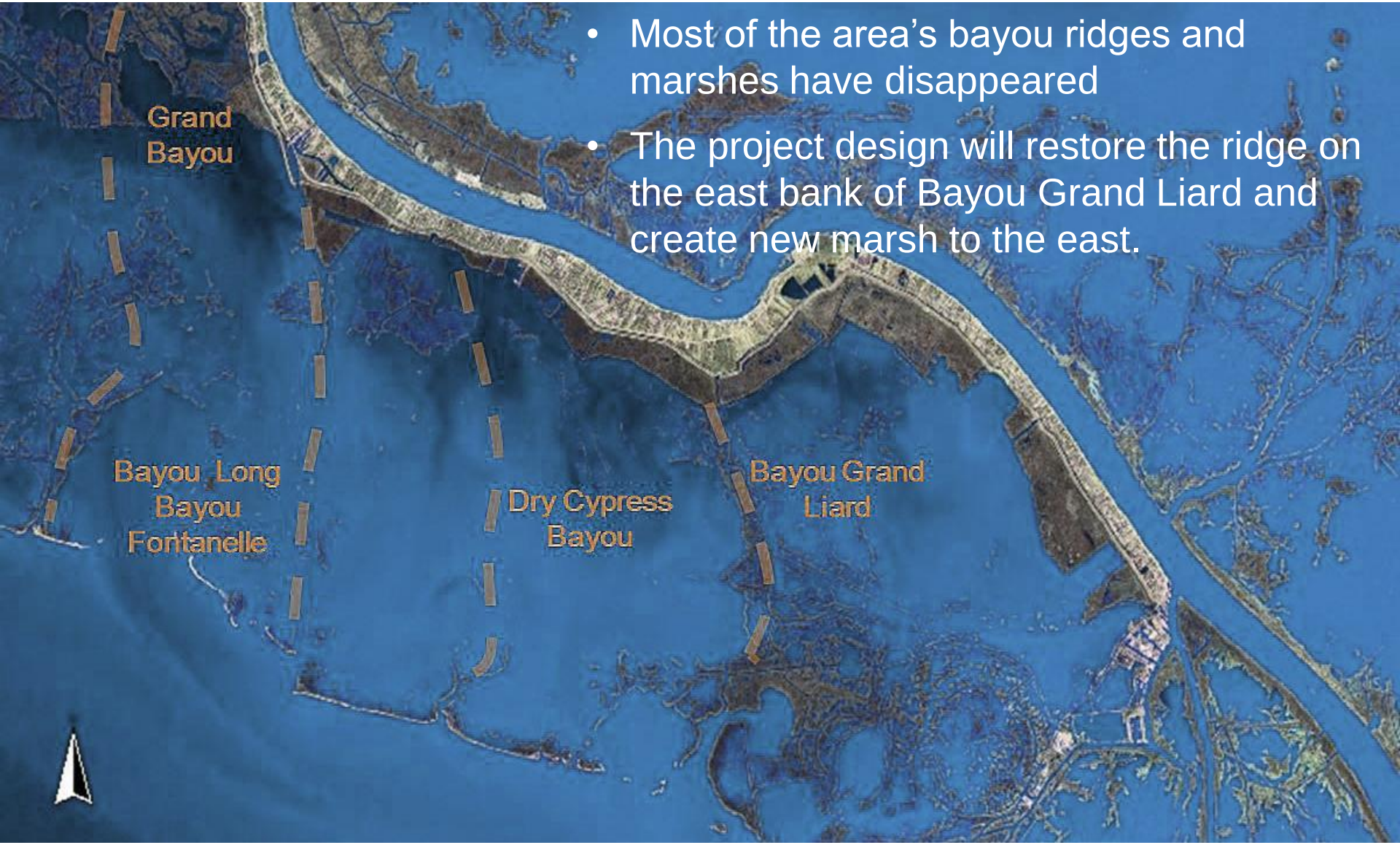
- 217,000 tons of concrete recycled from the dismantled I-10 twin span
- Prevent the loss of 110 acres of marsh



Ridge Restoration

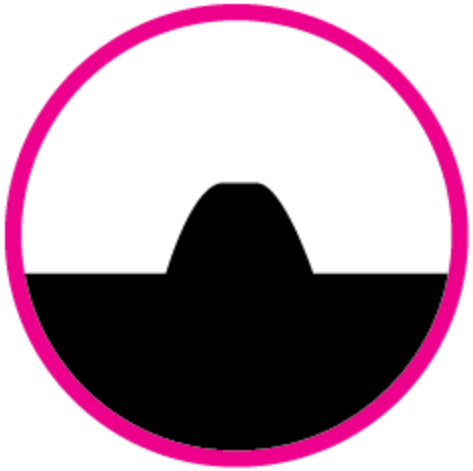
Re-establishment of historic ridges in basins through local dredging, sediment placement, and vegetative plantings to restore natural ridge functions

Grand Liard



- Most of the area's bayou ridges and marshes have disappeared
- The project design will restore the ridge on the east bank of Bayou Grand Liard and create new marsh to the east.

Structural Protection Features



- Reduce flood risk in coastal communities via the construction of physical barriers against storm surge.
- Earthen levee, concrete wall, floodgates, and pumps

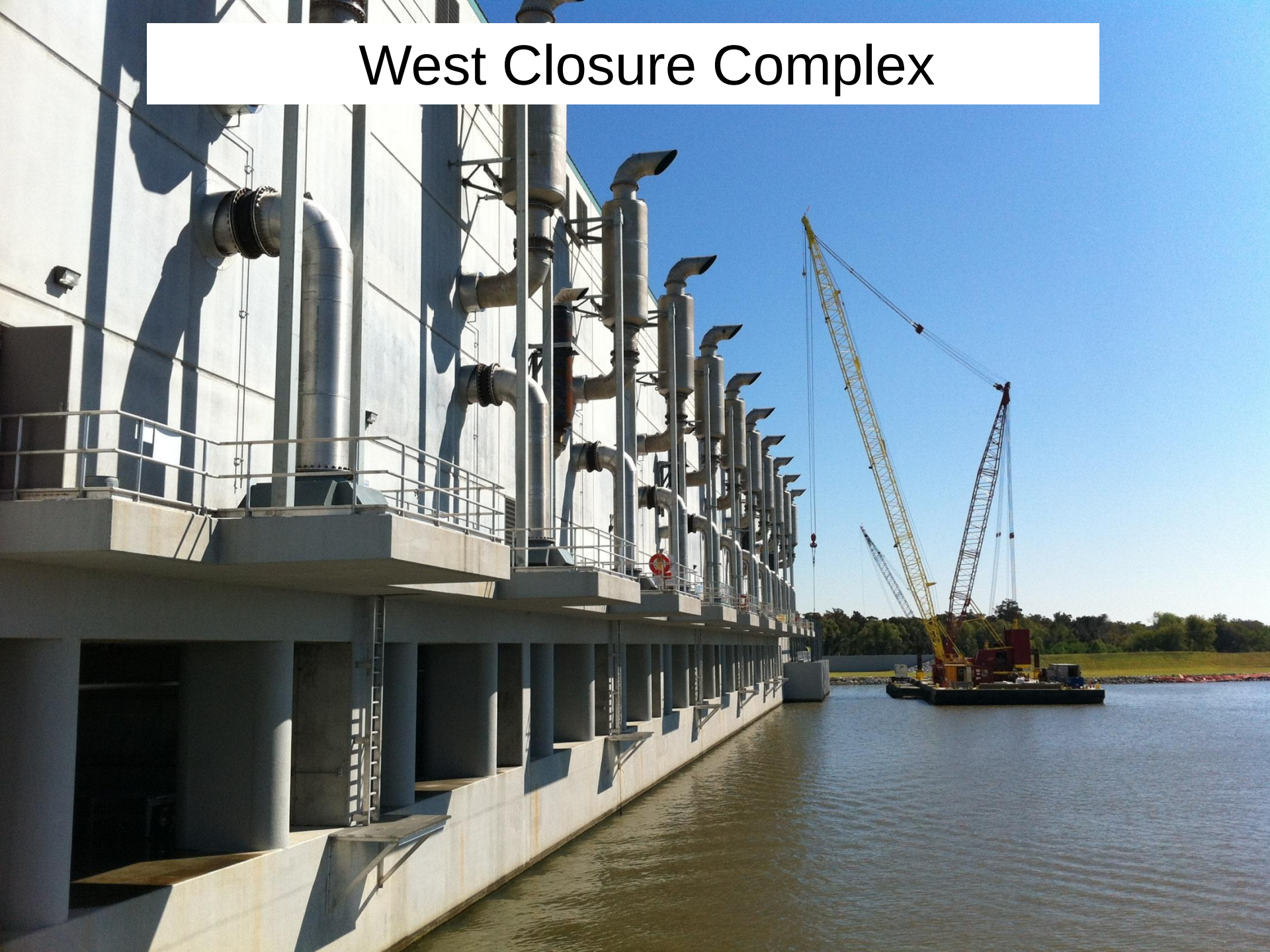
Larose to Golden Meadow (TE-65)

Total Project Budget:	**$19 million**
Levees Improved:	**23 miles**
Completion Date:	**July 2012**
Funding Program:	**State Surplus**

Larose to Golden Meadow (TE-65)

In conjunction with the South Lafourche Levee District, CPRA improved a total of 23 miles of levee in 6 reaches of the Larose to Golden Meadow Hurricane Protection System.

West Closure Complex



RESTORE Act

- RESTORE Act establishes framework to route 80% of Clean Water Act fines resulting from the *Deepwater Horizon* oil spill to the Gulf Coast into the "Gulf Coast Restoration Trust Fund."
- State law dedicates funds received by Louisiana through the RESTORE Act be dedicated to the implementation of the Coastal Master Plan

Gulf Coast Restoration Trust Fund

Centers of Excellence (2.5%)	Scientific Monitoring and Technology (2.5%)	Equal Share Among States (35%) **"POT 1"**	Ecosystem Restoration Council (30%) **"POT 2"**	Impact-Based State Awards (30%) **"POT 3"**

Pot 1

Equal Allocations to Gulf States

- 35% of all funding in the Gulf Coast Restoration Trust Fund
- Equally divided among the 5 states (20% per state)
  - 70% to State (CPRA)
  - 30% split among 19 coastal parishes *according to formula**

*CPRA will dedicate a portion of its State dollars for a matching program for parishes implementing Master Plan projects

Pot 1

Equal Allocations to Gulf States

Total CWA Fine	$ 1 Billion
Gulf Coast Trust Fund (80%)	$800 Million
Pot 1 Allocation (35% Trust Fund)	$280 Million
State of Louisiana (20% of Pot 1)	$56 Million
CPRA (70% Louisiana Share)	$39.2 Million
19 Coastal Parishes (by formula) (30% Louisiana Share)	$16.8 Million

Pot 1

Coastal Parish Impact Formula

- 40% based on the weighted average of miles of the parish shoreline oiled
- 40% based on the weighted average of the population of the parish
- 20% based on the weighted average of the land mass of the parish

Pot 2

Restore Council

- 30% Direct Funding from the Gulf Coast Restoration Trust Fund for the Comprehensive Plan
- 30% Indirect (Dispersal to States from Impact Formula)
- Additional Indirect over State Plans from Pot 1

Pot 2

Restore Council—Comprehensive Plan

- Projects with greatest impact
- Projects that are large-scale
- Projects for long-term resiliency
- Projects within state comprehensive plans
- Projects designed to benefit the environment

Pot 3

Impact Allocation

- 30% of Gulf Coast Trust Fund
- Formulas for oiled shoreline, distance from well, and population
- At least 5% to each state
- Money is disbursed by the Council